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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,560	03/30/2001	Helmut Bechtel	PHD 99,103	1464

7590 01/27/2003

Philips Electronics North America Corporation
580 White Plains Road
Tarrytown, NY 10591

EXAMINER

DONG, DALEI

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 01/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/806,560

Applicant(s)

BECHTEL ET AL.

Examiner

Dalei Dong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,692,662 to Wada.

Wada discloses all of the claimed limitation in claim 1. Wada discloses “a cathode bus CB is printed on a rear glass plate RG (carrier plate) and fired, a white glass layer WG (reflective layer) consisting of material described below, is printed thereon except for the vicinity of the cathode C and fired, a fluorescent layer Ph (phosphor layer) being coated further thereon. On the other hand, a display anode bus DAB is printed on a front glass plate RG and fired, a white bank WB consisting of materials described below is printed thereon and fired” (column 3, line 41-49, see figure 3b). The rear glass plate disclosed by Wada functions as a “carrier plate” and together with the front glass plate to form the plasma cells, which generates corona discharges. The white bank WB functions as the rib structure for the display device and further divides the top and bottom plate into separate plasma cells.

Wada also discloses “the glass materials of PbO-SiO₂-B₂O₃ descent, PbO-SiO₂-B₂O₃-ZnO descent, PbO-B₂O₃-ZnO descent, Bi₂O₃-SiO₂-B₂O₃ descent and these glass

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descents containing at least one of the R_2O ($R = Li, Na, K$), BaO , CaO , MgO , TiO_2 , ZrO_2 , Al_2O_3 , NaF and P_2O_5 , are available” (column 6, line 20-25).

Wada further discloses “oxides including alumina (1.53) silica (1.55), zinc oxide, magnesium oxide, titanium oxide (2.5 to 2.9), zirconium oxide (2.4), calcium oxide, 1st tin oxide, 2nd tin oxide, barium oxide and antimony oxide” (column 6, line 46-49). Wada uses the same type of reflective material as specified in the claim; therefore the index of refraction will be the same as claimed by the instant invention. Further yet, Wada uses a “325 mesh screen” (column 7, line 27-28). This mesh screen is within the claimed recitation of the particle size being $100\text{ nm} < d < 1000\text{ nm}$.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,692,662 to Wada in view of U.S. Patent No. 5,541,479 to Nagakubo.

Wada discloses all of the claimed limitations such as a carrier plate, a transparent front plate, a rib structure and a reflective layer. However, Wada does not disclose the thickness of the reflective layer. Nagakubo teaches a method for print a light-permeable glass paste “on the surface of a well washed real plate of glass, by using a

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screen having a predetermined parallel pattern, through use of the screen thick film printing technique. This printing is repeated, with each printing producing a thickness of approximately 10 micrometers” (column 5, line 48-53). However, the first layer of the printed film is a reflective layer for preventing the leakage of light to the rear plate. The reflective layer is formed by “a white pigment or dye coated as a light-reflecting layer on the rear plate” (column 6, line 7-8).

It would have been obvious to one of ordinary skill in the art at the time invention was made to use the method of printing with thickness of 10 micrometers taught by Nagakubo for reflective layer of Wada to prevent the leakage of light.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,692,662 to Wada in view of U.S. Patent No. 4,224,553 to Hellwig.

Wada details all of the claimed limitations, for instance the carrier plate, the transparent front plate, a rib structure and a reflective layer. But Wada does not disclose the type of gas within the plasma cells and the type of non-metallic powder. Hellwig teaches “the gas discharge chamber could be filled with any conventional gas known for this purpose, one typical example being a mixture consisting 99% helium and 1% xenon” (column 3, line 7-10). Hellwig further teaches “a coating which reflects ultraviolet radiation can be constituted, for example, by an SiO₂ layer that is vapor deposited or sputtered on” (column 2, line 9-11) to reflect the emitted light.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute the gas and the reflective coating of Hellwig for the device of Wada for the purpose of generating and preventing the leakage of the light.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,692,662 to Wada in view of U.S. Patent No. 5,939,826 to Ohsawa.

Wada specifies all of the claimed limitations, for example the carrier plate, the transparent front plate, a rib structure and a reflective layer. But Wada does not specify the reflective layer has to be multi-layer. Ohsawa teaches a “wavelength-selective reflective filter (thin film reflection filter) for reflecting a light of specified wavelength” (column 5, line 9-11). “Also, the wavelength selective reflective filter may be alternatively replaced by an interference film filter (multiplayer interference film filter)” (column 5, line 49-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the alternatively method of constructing a reflective layer of Ohsawa to replace the reflective layer of Wada, to prevent the leakage of light.

Response to Arguments

7. Applicant's arguments filed January 06, 2003 have been fully considered but they are not persuasive.

In response to Applicant's argument that the Wada reference does not disclose nor suggest the non-metallic powder having a refractive index specified in the claim, Wada

does disclose a white glass reflective layer composed of material specified in the claim such as SiO_2 and Al_2O_3 ; and thus it is the intrinsic property and characteristic of those materials disclosed by Wada to have a index of refraction as specified in the claim. Furthermore, the examples of composition of white glass reflective layer satisfies all of the specified limitations in the claim. Thus, Examiner asserts that the Wada reference is valid and justifiable and maintains rejection.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

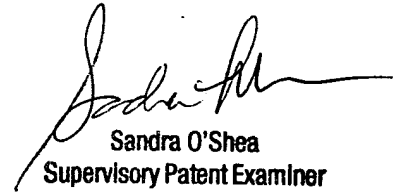
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (703)308-2870. The examiner can normally be reached on 8 A.M. to 5 P.M..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703)305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

D.D.
January 21, 2003



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800